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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,861	12/29/2000	Harold E. Boesch JR.	ARL 99-68	7450

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U S ARMY RESEARCH LABORATORY
ATTN AMSRL CS CC IP
2800 POWDER MILL RD
ADELPHI, MD 207831197

EXAMINER	
LAO, LUN S	

ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/749,861	BOESCH ET AL.	
	Examiner	Art Unit	
	Lun-See Lao	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☒ Claim(s) *21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. Claims 1-21 of U.S. application 09/749,861 filed on 12-29-2000 are presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Wooley (US PAT 4,574,632).

Consider claim 1 , Wooley teaches a method for providing an acoustic test cell with a periodic high intensity acoustic field, comprising the steps of:

(a) supplying a chamber (see fig.1,18) encompassing a volume as an acoustic test cell;

(b) employing an external source (10,11) to provide a periodic high- intensity acoustic field, said acoustic field having a fundamental frequency determined by its period and an intensity; and

(c) directly coupling said external source to said volume at a selected frequency (by 20 Hartmann generator) and intensity to provide in said volume a periodic high-intensity acoustic field (see col. 3 line 15-col.4 line29).

4. Claims 1-6, 10-14, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Polk (US PAT 5,475,764).

Consider claim 1, Polk teaches a method for providing an acoustic test cell with a periodic high intensity acoustic field, comprising the steps of:

(a) supplying a chamber (see fig.4,12,13) encompassing a volume as an acoustic test cell;

(b) employing an external source (from the , fig.4,(23,24)) to provide a periodic high-intensity acoustic field (see fig.7), said acoustic field having a fundamental frequency determined by its period and an intensity; and

(c) directly coupling said external source (see fig.4, 16,17) to said volume at a selected frequency (by fig1, circuit and see col.4 line 5-23) and intensity to provide in said volume a periodic high-intensity acoustic field (see col. 7 line 20-col.8 line21).

Consider claim 2 Polk teaches a method of the further comprises the steps of:

(d) providing a tuning port (19) connected to said volume to form a Heimholtz resonator (11) comprising said tuning port (19) and said chamber (13, 14), said tuning port (19) being not directly connected to said external source (16,17); and

(e) tuning said acoustic field within said volume with said tuning port (19 and see col. 10 line 15-col.11 line 40).

Consider claims 3-5 and 12-14, Polk teaches that the external source further comprises:

a source (see fig. 4, 16,17) providing á source flow (by speaker's diaphragm pull and pall) of one of air and gas into each said volume (such as chamber 12,13)); and a flow

modulator (by fig.1 circuitry,(pa) an acoustic pressure generator and see col.5-30) for varying said source flow; and the external source is an acoustic transducer (see fig.4, 16,17 and abstract) and further comprises varying the geometry of said tuning port (see fig4, 19 and col. 4 line 30 –col.5 line 67).

Consider claim 6, Polk teaches a method for an acoustic test cell of further comprising the steps of:

(f) dividing said volume into an input volume (see fig.4, (13) and a test volume (12);

(g) isolating said test volume (12) from said source flow;

(h) connecting said input volume (13) and said test volume (12) by said tuning port (19); and

(i) exhausting air from said input volume (13) to the exterior through a high acoustic mass unit (19 and see col. 10 line 15-col. 11 line 40).

Consider claim 10, Polk teaches an acoustic test cell apparatus employing a periodic high intensity acoustic field, said apparatus comprising:

(a) a chamber encompassing a volume (see fig.4, 11);

(b) means (16,17) for generating a periodic high-intensity acoustic field within said volume having a frequency and an intensity;

an external (16,17) source directly coupled to said volume for providing said periodic high intensity acoustic field; and

(d) a tuning port (19) connected to said volume for tuning said frequency of said high intensity acoustic field within said volume to a predetermined frequency and intensity

said the tuning port (19) being not directly connected with said external source (col. 10 line 15-col.11 line 40).

Consider claim 11, Polk teaches the apparatus of the test chamber (see fig.4, 12) is rigid airtight; said acoustic field is continuous; and said tuner (19) and said volume form a Helmholtz resonator (11 and see col.10 line 15-col.11 line 40).

Consider claim 17, Polk teaches that the apparatus of the volume further comprises:

(a) an input volume (se fig.4, 13) and a test volume (12), said test volume being acoustically isolated from both said source flow and said input volume (13) and connected to said input volume by said associated tuning port (19) and

(b) a high acoustic mass means (19) for exhausting air from said input volume to the exterior (see col.10 line 15-col.11 line 40).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 7,18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polk (US PAT 5,475,764) in view of Meissner (US PAT. 5,734,728).

Consider claims 7 and 18, Polk do not clearly teach a method for an acoustic test cell the high acoustic mass unit is a long duct.

However, Meissner teaches an acoustic test cell the high acoustic mass unit is a long duct (see fig.1,12 and col.5 line 40-col.6 line 51).

Therefore, it would have been obvious to one of ordinary skill in the art the time the invention was made to combine the teaching of Meissner into Polk to produces an acoustic field throughout a room that imparts an extra dimension.

7. Claims 8,15,19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polk (US PAT 5,475,764) in view of Flanders (US PAT 4,593,784).

Consider claims, 8,15,19 Polk does not clearly teach a method for an acoustic test cell of said acoustic field lies in the infrasonic to low-sonic frequency range of 1 Hz to 30 Hz.

However, Flanders teaches a method for an acoustic test cell of said acoustic field lies in the infrasonic to low-sonic frequency range of 1 Hz to 30 Hz (see figs 1-2 and see col.4 lines 51-66).

Therefore, it would have been obvious to one of ordinary skill in the art the time the invention was made to combine the teaching of Flanders into Polk to provide a loudspeaker enclosure of the class described in which the back wave port is configured with a lip by which to whereby to separate further the front and back acoustic waves and correspondingly extend the bass response.

8. Claims 9,16, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polk (US PAT 5,475,764).

Consider claims 9, 16, 20 Polk does not teaches a method for an acoustic test cell of the volume is preferably 5 m^3 ., However, Polk does indicated some volume and it is well-known in the to replace different volume, and therefore it would have been obvious that Polk could have changed the acoustic test cell such as 5m^3 for market demand.

Allowable Subject Matter

9. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered to applicant's disclosure. Hill (US PAT 5,131,052) is recited to show other related the high intensity infrasonic tunable resonant acoustic test cell.

11. Any response to this action should be mailed to:

Mail Stop ____(explanation, e.g., Amendment or After-final, etc.)
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:
(703) 872-9306

Hand-delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Lao,Lun-See whose telephone number is (571) 272-7501 The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (571) 272-7499.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See
Patent Examiner
US Patent and Trademark Office
Crystal Park 2
571-272-7501

DUC NGUYEN
PRIMARY EXAMINER